

Sutton Maths Class

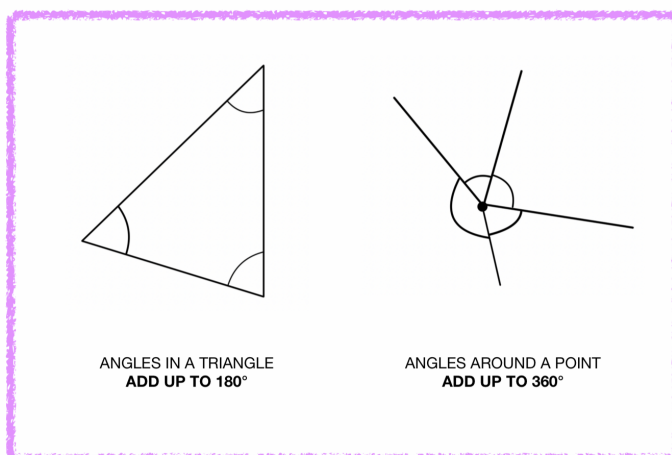
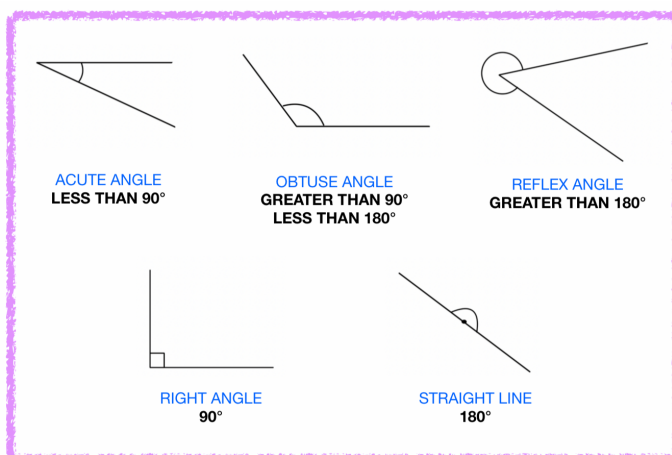
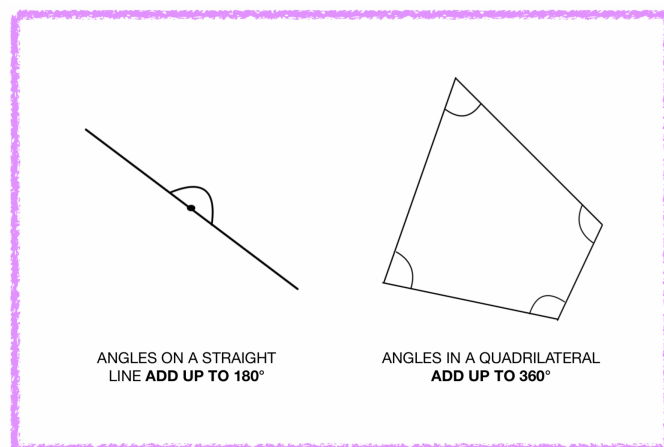
Key Revision Notes

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{1}{5}$	0.2	20%
$\frac{1}{10}$	0.1	10%
$\frac{1}{100}$	0.01	1%
$\frac{1}{8}$	0.125	12.5%
$\frac{1}{3}$	$0.\dot{3}$	$33.\dot{3}\%$

Metric Units of Measure	Imperial Units of Measure
Length: 1 km = 1000m 1m = 100cm 1cm = 10mm Weight: 1 tonne = 1000kg 1 kg = 1000g 1g = 1000mg Capacity: 1 litre = 1000ml	Length: 1 mile = 1760 yards 1 yard (yd) = 3 feet 1 foot (ft) = 12 inches Weight: 1 stone = 14 pounds 1 pound (lb) = 16 ounces (oz) Capacity: 1 gallon = 8 pints

Approximate Equivalences ($\approx$ means 'is approximately equal to')

Length: 8 km $\approx$ 5 miles (1 mile $\approx$ 1.6km) 1 yard $\approx$ 90 cm 1 foot $\approx$ 30 cm 1 inch $\approx$ 2.5 cm Weight: 1 ounce (oz) $\approx$ 30 grams (g) 1 kg $\approx$ 2.2 pounds Capacity: 1 pint $\approx$ 0.6 litre (l) 1 gallon $\approx$ 4.5 litres



Months

30 days hath September, April, June, and November;
 All the rest have 31, Excepting February alone,
 And that has twenty-eight days clear, and twenty-nine in each leap year

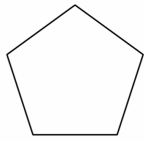
Time

1 millennium	=	1000 years
1 century	=	100 years
1 year	=	12 months = 52 weeks
1 week	=	7 days
1 day	=	24 hours
1 hour	=	60 minutes
1 minute	=	60 seconds

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Regular Polygons

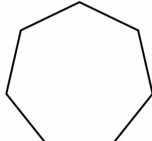
In a REGULAR polygon, ALL sides are EQUAL and ALL angles are EQUAL.



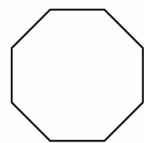
PENTAGON



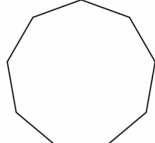
HEXAGON



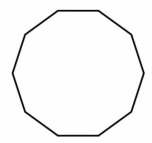
HEPTAGON



OCTAGON



NONAGON

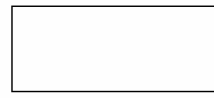


DECAGON

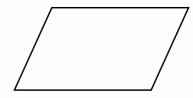
Quadrilaterals



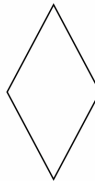
SQUARE
FOUR EQUAL SIDES
FOUR 90° ANGLES
FOUR LINES OF SYMMETRY



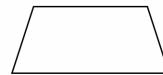
RECTANGLE
TWO PAIRS OF EQUAL SIDES
FOUR 90° ANGLES
TWO LINES OF SYMMETRY



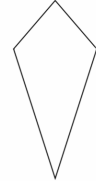
PARALLELOGRAM
TWO PAIRS OF PARALLEL SIDES
TWO PAIRS OF EQUAL ANGLES
NO LINES OF SYMMETRY



RHOMBUS
FOUR EQUAL SIDES
TWO PAIRS OF EQUAL ANGLES
TWO LINES OF SYMMETRY



TRAPEZIUM
ONE PAIR OF PARALLEL LINES

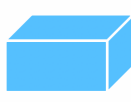


KITE
TWO PAIRS OF SIDES WITH EQUAL LENGTH
ONE PAIR OF OPPOSITE EQUAL ANGLES
ONE LINE OF SYMMETRY

3D Shapes



Cube



Cuboid



Sphere



Square-based Pyramid



Cone



Triangular-based Pyramid (tetrahedron)



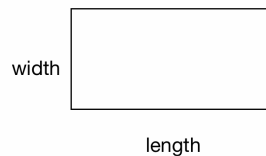
Cylinder



Prism

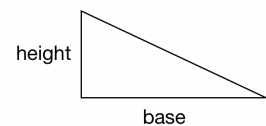
Area of Rectangle

$$A = \text{length} \times \text{width}$$



Area of Triangle

$$A = \frac{1}{2} \times \text{base} \times \text{height}$$



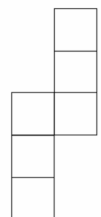
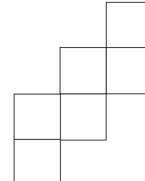
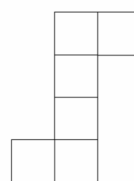
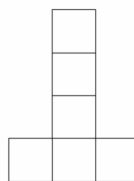
Prism



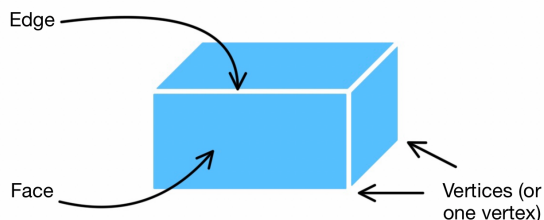
A **prism** has the same shape at both ends with rectangles joining them.
'If you slice the shape at any point between the two ends the shape in the middle is the same'.

Nets

A **net** can be folded up to make a 3D shape. The following are some of the nets that make up a **cube** and will all 'fold up' to make the same shape:



Faces, Edges & Vertices



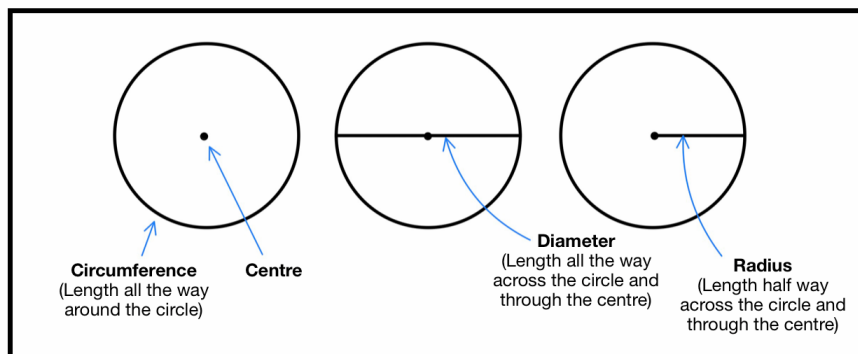
Volume and Capacity

Volume is the amount of space a 3D object takes up. This is measured in cubic units such as cm^3 , m^3 and mm^3 .

$$\text{Volume of cuboid} = \text{length} \times \text{width} \times \text{height}$$

Capacity is the maximum amount of water a container can hold. This is measured in litres and millilitres (**l** and **ml**).

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Pi or π

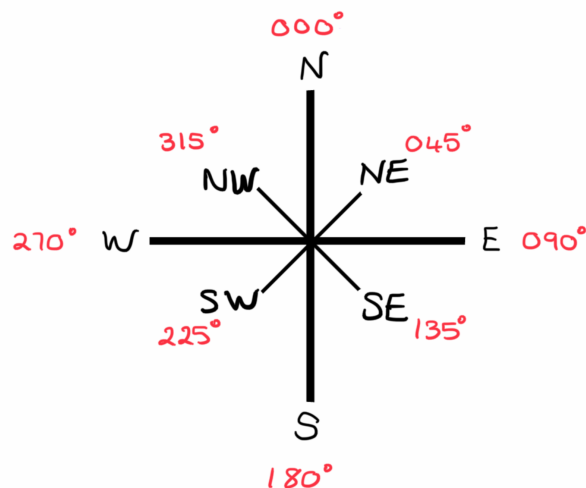
Pi or π is an irrational number ('the decimals go on forever with no pattern') 3.1415927..... As this is irrational we use an **approximate value**, 3.14. We use $\approx$ to mean 'approximately equal to'.

$$\pi \approx 3.14$$

Circumference of a Circle

The circumference of the circle is the length all the way around. The **circumference of a circle** is always $\pi \times \text{diameter}$, or approximately **3.14 x diameter**.

$$\text{Circumference} \approx 3.14 \times \text{diameter}$$



1	I	11	XI	50	L
2	II	12	XII	100	C
3	III	13	XIII	500	D
4	IV	14	XIV	1000	M
5	V	15	XV		
6	VI	16	XVI		
7	VII	17	XVII		
8	VIII	18	XVIII		
9	IX	19	XIX		
10	X	20	XX		